



# Emergency Obstetric Hysterectomy, Risk Factors, Indications and Outcome: A Retrospective Two Year Study

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## ABSTRACT

**Background:** Obstetric emergency hysterectomy means that emergency hysterectomy which is taken after drug therapy and conservative surgery fails to control blood loss from gravid uterus. It is the last resort to save mother's life, and beside, the mother's reproductive capability is sacrificed.

**Objectives:** To study the cases of peripartum hysterectomy over a period of 2 years from Jan 2015 – Dec 2016 in tertiary centre of Geetanjali Medical College and Hospital, Udaipur, to assess incidence, indication, risk factor and maternal outcome.

**Methods:** 18 cases of emergency hysterectomies which were performed during the study period data were taken and were assessed.

**Results:** During the study period, incidence of obstetric hysterectomy is 0.52%. Most common indication for obstetric emergency hysterectomy is atonic PPH (27.77%). Hemorrhagic shock (61.11%) is most common complication followed by bladder injury (27.11%).

**Conclusion:** Elderly gravida with IVF pregnancy, history of previous cesarean (with adherent placenta) and history of myomectomy are risk factors for peripartum hysterectomy. These cases should be dealt cautiously and should be handled at tertiary centres.

**Key Words:** Obstetric emergency hysterectomy, Atonic postpartum hemorrhage, Hemorrhagic shock, Bladder injury

## INTRODUCTION

Obstetric hysterectomy is a hysterectomy performed on a gravid uterus during pregnancy or in puerperium period. It was first done by Horatio Storer in 1869. Obstetric emergency hysterectomy means that emergency hysterectomy which is taken after drug therapy and conservative surgery fails to control blood loss from gravid uterus. On one hand it is the last resort to save mother's life, and beside, the mother's reproductive capability is sacrificed. Because of the increasing cesarean section (CS) rate world-wide and the concomitant rise in placenta previa and placenta accreta, the incidence of the emergency PH is rising<sup>1</sup>.

In third world countries, obstetric hemorrhage the uterine atony are the leading cause, of the maternal deaths, followed closely by ruptured uterus and uterine sepsis<sup>2</sup>. Emergency

hysterectomy during normal vaginal deliveries, ectopic pregnancy or caesarian deliveries is performed when all other measures to control maternal hemorrhage have become futile. The commonest indication for emergency hysterectomy which are cited in the literature are uterine rupture and atonic uterus<sup>3</sup>.

Most of the times the operation is carried out when the condition of the patient is too critical to withstand the risks of anesthesia or surgery.

The purpose of our study was to know the incidence, indications, risk factors and the maternal profile and complications of the patients undergoing emergency hysterectomies at our tertiary level hospital which mainly caters to the rural and urban population.

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## AIMS AND OBJECTIVES

The study was conducted with the following aims:

1. Incidence and indications of peripartum hysterectomy
2. Risk factors associated with peripartum hysterectomy
3. Maternal outcome

## MATERIAL AND METHODS

A retrospective study of 2 years from Jan 2015 upto Dec 2016 in tertiary centre of Geetanjali Medical College and Hospital, Udaipur Rajasthan, India was conducted. The data of 18 peripartum hysterectomies performed was collected and data was analyzed with special emphasis on indications, risk factors and maternal outcome.

## OBSERVATIONS AND RESULTS

### Table 1: Incidences

Incidence of obstetrical hysterectomy in our study within 2 years of duration was 0.52%. In our study incidence of normal delivery was 40.01% and caesarean section was 59.98%. Maternal mortality was seen in (3/18) patients i.e (16.66%) cases.

### INCIDENCES OF EMERGENCY HYSTRECTOMY

INCIDENCE	NUMBER (N) = 3411	PERCENTAGE (%)
Incidence of Normal delivery	1365	40.01%
Incidence of Caesarean Delivery	2046	59.98%
Incidence of obstetric hysterectomy	18	0.52%
Incidence of obstetric hysterectomy followed vaginal delivery	5	0.14%
Incidence of obstetric hysterectomy followed caesarean section	7	0.20%
Incidence of obstetric hysterectomy due to ectopic pregnancy	3	0.087%

### Table 2: Maternal Profile

There was a high association of age seen in our study. Majority women belonged to 26 -30 years of age .

## MATERNAL AGE DISTRIBUTION IN EMERGENCY HYSTERECTOMY

AGE (yrs.)	PARITY						TOTAL
	0	1	2	3	4	5	
<20	-	-	-	-	-	-	0
21-25	-	-	-	1	-	-	1
26-30	2	1	2	1	-	-	6
31-35	-	1	3	-	1	-	5
36-40	-	1	1	-	-	-	2
41-45	1	-	-	-	-	1	1
>46	2	-	-	-	-	-	2
Total	5	3	6	2	1	1	18

### Table 3: Risk Factors

The reason for this non – uniform distribution of parity with caesarean hysterectomy is due to presence of high risk factors, elderly IVF pregnancies, ectopic pregnancy and other confounding factors such as low socioeconomic status, poor general condition, massive hemorrhage and severe anemia.

## RISK FACTORS ASSOCIATED WITH OBSTETRICS HYSTERECTOMY

RISK FACTORS	NUMBER	PERCENTAGE(%)
Age > 35 years	11	61.11%
History of myomectomy	03	16.66%
History of previous LSCS (adherent placenta)	03	16.66%
IVF conception	05	27.77%
Multiple pregnancy	02	11.11%
Accidental hemorrhage	03	16.66%
Traumatic	01	5.55%

Where:

LSCS-lower segment Caesarean section

IVF in vitro fertilization

### Table 4: Indications for Obstetric Hysterectomy

In our study most common indication for obstetrical hysterectomy was atonic PPH (27.77%) followed by rupture uterus 22.22%.

**INDICATIONS FOR OBSTETRIC HYSTERECTOMY**

INDICATIONS	NUMBER (N)	PERCENTAGE (%)
Traumatic PPH	1	5.55%
Atonic PPH	5	27.77%
Rupture uterus	4	22.22%
Ectopic pregnancy	3	16.66%
Placenta percreta	3	16.66%
Carcinoma in situ	1	5.55%
Molar gestation	1	5.55%
Total	18	100%

Where: (PPH : post partum hemorrhage)

**Table 5: Type of Hysterectomy**

In our study most common type of hysterectomy performed was total abdominal hysterectomy (66.66%) and 33.33% patients underwent subtotal hysterectomy.

**TYPE OF HYSTERECTOMY**

TYPE OF HYSTERECTOMY	NUMBER (N) N=18	PERCENTAGE (%)
Subtotal hysterectomy	6	33.33%
Total hysterectomy	12	66.66%

**Table 6: Post Operative Complications**

Amongst the post operative complications, the most common post operative complication in our study was haemorrhagic shock seen in (61.11%) patients followed by cases having bladder injury (27.77%), DIC (22.22%), acute renal failure(16.66%), paralytic ileus (16.66%) whereas, 16.66% patients had breast engorgement, wound infection (11.11%), 11.11% patients had septicemia and 16.66% was the documented maternal mortality rate.

**POSTOPERATIVE COMPLICATIONS**

CAUSES	NUMBER (N) N= 18	PERCENTAGE (%)
Breast engorgement	3	16.66%
Wound infection	2	11.11%
Bladder injury	5	27.11%
Septicemia	2	11.11%
Maternal mortality	3	16.66%
DIC	4	22.22%
Hemorrhagic Shock	11	61.11%
Paralytic Ileus	3	16.66%
Acute renal failure	3	16.66%

Where: DIC (disseminated intravascular coagulopathy)

**DISCUSSION**

Incidence of obstetrical hysterectomy in our study within 2 years of duration was 0.52% which was slightly higher to the studies conducted by Praneshwari et al<sup>4</sup>, Sturdee and Rushton<sup>5</sup>, Chew & Bishwas<sup>6</sup>, Gupta et al<sup>7</sup> who reported an overall incidence of 0.0779%, 0.05%, 0.0392% and 0.26% each respectively. It may due to the fact that most of the deliveries at our tertiary care belong to high risk group & referral (referral cases high). (TABLE 1)

There was a high association of age seen in our study but there was no significant difference seen in primi and multiparas in our study. Mean age of women who underwent obstetric hysterectomy at our centre was 35.44 years (TABLE 2). Study conducted by Najam R<sup>8</sup> et al revealed 29% cases with parity >5. The reason for this non-uniform distribution of parity with caesarean hysterectomy is due to presence of high risk factors, elderly IVF pregnancies, ectopic pregnancy and other confounding factors such as low socioeconomic status, poor general condition, massive hemorrhage and severe anemia (TABLE 3).

In our study incidence of normal delivery was 40.01% and caesarean section was 59.98%. Whereas, incidence of obstetric hysterectomy followed by vaginal delivery was 0.14% and obstetrical hysterectomy followed by caesarean section was 0.20%. These results were slightly at a higher range as compared 0.0106%, 0.039% and 0.33%, 0.45% respectively reported by Praneshwari et al<sup>4</sup> & Pawar & Shrotri et al<sup>9</sup> (TABLE 1).

In our study most common indication for obstetrical hysterectomy was atonic PPH (27.77%) followed by rupture uterus 22.22%, all ruptures are seen in previous scar uterus either scar due to myomectomy or due to Caesarean section no cases of rupture seen due to obstructed labour this could be due decreasing home delivery by untrained persons and promotion and practice of hospital deliveries. which was similar to the incidence found by Praneshwari et al<sup>4</sup> (19.2%), Allahbadiya & Vaidya<sup>10</sup> (16%), Kant Anita et al<sup>2</sup> (41.46%), Agashe & Marathe<sup>11</sup> (60%) and Mantri et al<sup>13</sup> (67.2%). Second most common indication in our study was rupture uterus (23.22%) which was similar to the study conducted by Praneshwari et al<sup>4</sup> (23%), Allahbadiya & Vaidya<sup>10</sup> (20%) and Kant Anita<sup>2</sup> (36.58%). In our study other indications seen were placental causes such as placenta increta & percreta (16.66%), ectopic pregnancy (16.66%), traumatic PPH (5.55%) and molar gestation (5.55%) (TABLE 4).

In our study maternal mortality was seen in (3/18) patients i.e (16.66%) cases. Similar results were found by Agashe and Marathe<sup>11</sup> (14%). Whereas, Praneshwari et al<sup>4</sup> found no maternal mortality in relation to obstetric hysterectomy.

In our study most common type of hysterectomy performed was total abdominal hysterectomy (66.66%). But subtotal

hysterectomy is usually preferred as it is less time consuming surgery and it gives a better outcome in a moribund patient. But in indications like placenta previa and adherent placenta total abdominal hysterectomy is the ideal treatment as it removes the placental bed in the lower uterine segment. At our centre 33.33% patients underwent subtotal hysterectomy which was also seen by Praneshwari et al<sup>4</sup> and Mrinalini et al<sup>12</sup> (40%).(TABLE 5)

Amongst the post operative complications, the most common post operative complication in our study was haemorrhagic shock seen in (61.11%) followed by cases having bladder injury (27.77%), DIC (22.22%), acute renal failure(16.66%), paralytic ileus (16.66%) whereas, 16.66% patients had breast engorgement, wound infection (11.11%) and 11.11% patients had septicaemia. Whereas, Praneshwari et al<sup>4</sup> found vesicovaginal fistula after subtotal hysterectomy which was done due to ruptured uterus which was followed by prolonged obstructed labor. Whereas, Kant Anita<sup>1</sup> found post operative shock, pyrexia, paralytic ileus and wound infection as common post operative complications. They were mainly due to prolonged labour, intrauterine manipulations and sepsis. Nazam R<sup>8</sup> reported 2 cases which had septic shock and 1 case in their study had DIC.(TABLE 6)

## CONCLUSION

As life-saving procedure to deal with obstetric complication when medical and conservative surgical procedure fail emergency hysterectomy are performed. Elderly gravida with IVF pregnancy, history of previous LSCS(with adherent placenta) and history of myomectomy are risk factor for peripartum hysterectomy. These cases should be dealt cautiously and should be handled at tertiary centres. Impact of risk factors can be further studied by longer duration of study. As a method of treatment it is a radical procedure, though it has a definite role in the management of life threatening obstetric hemorrhage or ruptured uterus. On one hand it is the last resort to save a mother's life, and on the other hand, the reproductive capability of a mother is sacrificed and leads to both surgical morbidity and psychological impact on women health.

Up gradation of the peripheral health centers and the timely referral of high risk parturients to higher centers can decline the rate of peripartum complications and improve maternal care and wellbeing. Emergency hysterectomy leads to psychological stress due to perceived loss of femininity, cessation of menstruation and reproductive ability. Psychological

counselling and support therefore plays an important role in postoperative patients.

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